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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,060	12/05/2003	Don A. Kubose	06299.18992	9163

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EXAMINER

MATZEK, MATTHEW D

ART UNIT PAPER NUMBER

1771

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/729,060	Applicant(s) KUBOSE ET AL.	
	Examiner Matthew D. Matzek	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-35 and 37-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-35 and 37-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment dated 5/22/2006 has been fully considered and entered into the Record. The amended claims contain no new matter. The objection to the Specification has been withdrawn due to a shortened Abstract. The rejection of claims 35, 42, 48, 54 and 60 under 35 U.S.C. 112, second paragraph has been withdrawn due to amendment. Claims 1-32 and 36 have been canceled, and claims 33-35 and 37-65 are currently active. The use of the term micro-denier is not considered indefinite following the reference provided by Applicant.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 41, 47, 53 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The cited claims recite the limitation "fine-denier blend fibers", but the Specification offers no incite as to the denier necessary to create the instantly claimed product. According to the attachment provided by Applicant "fine-denier" is to include fibers with a denier ranging from 1.5 to 3 denier. For examination purposes, that is the standard that will be used by Examiner.

3. Claims 47, 53 and 59 are also rejected as they recite "coarse-denier fibers", but the Specification only offers a teaching for coarse-denier fibers to have a preferable diameter of 5 to 30 micron. The terms denier and diameter may not be used interchangeably as they possess different units (denier [=] mass/length and diameter [=] length). According to the attachment

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provided by Applicant "coarse-denier" is to include fibers with a denier ranging from 15 to 70 denier. For examination purposes, that is the standard that will be used by Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 33, 35, 37 and 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Dahringer et al. (US 5,726,107).

a. Dahringer et al. teach a nonwoven of electret fiber mixtures that comprise at least two different types of fibers and charge control agents (Abstract). The nonwoven may be formed via needle-punching (col. 5, lines 60-65). The fibers of the nonwoven may be polypropylene (col. 12, lines 16-21). The nonwoven mainly comprises fibers with 0.01 to 30% by weight of the invention being charge control agents (Abstract). This teaching provides for the applied article to comprise 70 to 99.99 weight percent polypropylene fibers. A number of charge control agents (charge treatment agents) may be applied to the fibers of the nonwoven fabrics including cationic amides (col. 12, lines 50-59).

b. Claim 39 is rejected as nonwoven fabrics may be mechanically consolidated (col. 6, lines 60-65) via heated calendaring (col. 8, lines 25-29) and so the fabric density, air permeability, and mean pore size can be controlled through heated calendaring and densification of the nonwoven sheets. Claim 40 is rejected as the applied invention meets the structural and compositional limitations set forth in claim 33 and as such can be

formed into the instantly claimed orientations. The linear density of the fibers of the applied nonwoven range from 0.018 to 27 denier (col. 4, lines 30-38). Examiner interprets this teaching to anticipate a blend of micro-denier/fine-denier fibers and coarse-denier fibers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 34, 41-43, 45-49, 51-55, 57-61 and 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahringer et al. (US 5,726,107) in view of Kahlbaugh et al. (US 5,364,456).

a. Dahringer et al. teach a nonwoven of electret fiber mixtures that comprise at least two different types of fibers and charge control agents (Abstract). The nonwoven may be formed via needle-punching (col. 5, lines 60-65). The nonwoven article may also be needle-punched to other layer (col. 8, lines 37-42) providing it with greater stability or additional filtering capability. The fibers of the nonwoven may be polypropylene (col. 12, lines 16-21). The nonwoven mainly comprises fibers with 0.01 to 30% by weight of the invention being charge control agents (Abstract). This teaching provides for the applied article to comprise 70 to 99.99 weight percent polypropylene fibers. A number of charge control agents (charge treatment agents) may be applied to the fibers of the nonwoven fabrics including cationic amides (col. 12, lines 50-59). The linear density of

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the fibers of the applied nonwoven range from 0.018 to 27 denier (col. 4, lines 30-38).

Examiner interprets this teaching to anticipate a blend of micro-denier/fine-denier fibers and coarse-denier fibers. Dahringer et al. is silent as to the creation of a multi-layered, graded density filter structure.

b. Kahlbaugh et al. teach filtration article that comprises a gradient depth filter system with multiple layers (col. 5, lines 42-46) that decrease in fiber size with depth (col. 5, lines 7-10).

c. Since Dahringer et al. and Kahlbaugh et al. are from the same field of endeavor, (i.e. filters), the purpose disclosed by Kahlbaugh et al. would have been recognized in the pertinent art of Dahringer et al.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the article of Dahringer et al. into a multi-layer density graded filter. The skilled artisan would have been motivated by the desire to create a filter with an extended lifetime or relative long lifetime (col. 6, lines 44-49).

3. Claims 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahringer et al. (US 5,726,107) as applied to claims 37 and 43 above, and further in view of Bond et al. (US 2002/0168912).

a. Dahringer et al. teach a nonwoven of electret fiber mixtures that comprise at least two different types of fibers and charge control agents (Abstract). The nonwoven may be formed via needle-punching (col. 5, lines 60-65). The nonwoven article may also be needle-punched to other layer (col. 8, lines 37-42) providing it with greater stability or additional filtering capability. The fibers of the nonwoven may be polypropylene (col.

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12, lines 16-21). The nonwoven mainly comprises fibers with 0.01 to 30% by weight of the invention being charge control agents (Abstract). This teaching provides for the applied article to comprise 70 to 99.99 weight percent polypropylene fibers. A number of charge control agents (charge treatment agents) may be applied to the fibers of the nonwoven fabrics including cationic amides (col. 12, lines 50-59). The linear density of the fibers of the applied nonwoven range from 0.018 to 27 denier (col. 4, lines 30-38). Examiner interprets this teaching to anticipate a blend of micro-denier/fine-denier fibers and coarse-denier fibers. The invention of Dahringer et al. is silent as to the use of polyamide-epichlorohydrin (PAE).

b. Bond et al. teach needle-punched [0136] nonwoven webs comprising polypropylene fibers [0137] that may be used as filters [0138]. The fibers may comprise multiple components and may include wet strength resins such as polyamide-epichlorohydrin (PAE) [0062].

c. Since Dahringer et al. and Bond et al. are from the same field of endeavor, (i.e. filters), the purpose disclosed by Bond et al. would have been recognized in the pertinent art of Dahringer et al.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the article of Dahringer et al. with the wet strength resin of Bond et al. with the motivation to improve the crosslinking ability of the polypropylene fibers of the filter [0062]. The invention of Bond et al. provides for a different motivation than Applicant for the inclusion of PAE into the nonwoven filter

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fabric, but the teaching still reads on the instantly claimed article as it would also serve as charge treatment to the polypropylene fibers.

4. Claims 50, 56 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahringer et al. (US 5,726,107) in view of Kahlbaugh et al. (US 5,364,456) as applied to claims 49, 55 and 61 above, and further in view of Bond et al. (US 2002/0168912). The inventions of Dahringer et al. and Kahlbaugh are silent as to the use of polyamide-epichlorohydrin (PAE).

a. Bond et al. teach needle-punched [0136] nonwoven webs comprising polypropylene fibers [0137] that may be used as filters [0138]. The fibers may comprise multiple components and may include wet strength resins such as polyamide-epichlorohydrin (PAE) [0062].

b. Since Dahringer et al. and Bond et al. are from the same field of endeavor, (i.e. filters), the purpose disclosed by Bond et al. would have been recognized in the pertinent art of Dahringer et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the article of Dahringer et al. with the wet strength resin of Bond et al. with the motivation to improve the crosslinking ability of the polypropylene fibers of the filter [0062]. The invention of Bond et al. provides for a different motivation than Applicant for the inclusion of PAE into the nonwoven filter fabric, but the teaching still reads on the instantly claimed article as it would also serve as charge treatment to the polypropylene fibers.

Response to Arguments

5. Applicant's arguments filed 5/22/2006 have been fully considered but they are not persuasive.

6. Applicant argues that Dahringer et al. neither discloses nor recites the filtration in which the charge treatment is applied to the surface of the sheets. Examiner disagrees with Applicant's interpretation of the applied reference. Dahringer et al. provide for, as Applicant has pointed out, filters that are charged "electrostatically in a controlled manner ... in a corona discharge" [col. 8, lines 65-67]. While the reference does not explicitly state that the surface of the filter has been treated, the use of corona discharge would provide for the treatment of the surface of the filter, thereby anticipating the instantly claimed invention.

7. Applicant argues that neither Dahringer et al. nor Kahlbaugh et al., alone or in combination, describe a surface-charge treated filter. As addressed supra, Examiner has interpreted the Dahringer et al. reference to provide for this limitation.

8. Applicant argues that Examiner has improperly combined the Dahringer et al. and Kahlbaugh et al. references because the prior art fails to explain or suggest any benefit to incorporate gradient depth filter with multiple layers. Applicant is directed to col. 7, lines 11-25 of Dahringer et al. which provides for additional layers to be added to the applied filter. Applicant is also directed to col. 5, line 1-col. 6, line 52, which provides for multiple-layered graded density filters and the benefits of such an article.

Conclusion

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mdm

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NORCA TORRES
PRIMARY EXAMINER

August 3, 2006